Section 9. Departure Procedures and Separation

3-9-1. DEPARTURE INFORMATION

Provide current departure information, as appropriate, to departing aircraft.

a. Departure information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code.

b. Issue departure information by including the following:

1. Runway in use. (May be omitted if pilot states "have the numbers.")

2. Surface wind from direct readout dial, LLWAS, or automated weather observing system information display. (May be omitted if pilot states "have the numbers.")

3. Altimeter setting. (May be omitted if pilot states "have the numbers.")

REFERENCE-
FAAO 7110.65, Current Settings, Para 2-7-1.

c. Time, when requested.

d. Issue the official ceiling and visibility, when available, to a departing aircraft before takeoff as follows:

1. To a VFR aircraft when weather is below VFR conditions.

2. To an IFR aircraft when weather is below VFR conditions or highest takeoff minima, whichever is greater.

NOTE-
Standard takeoff minimums are published in 14 CFR Section 91.175(f). Takeoff minima other than standard are prescribed for specific airports/runways and published in a tabular form supplement to the NOS Instrument Approach Procedures Charts and appropriate FAA Forms 8260.

e. Taxi information, as necessary. You need not issue taxi route information unless the pilot specifically requests it.

f. *USAF NOT APPLICABLE.* An advisory to "check density altitude" when appropriate.

REFERENCE-
FAAO 7210.3, Broadcast Density Altitude Advisory, Para 2-10-6.

g. Issue braking action for the runway in use as received from pilots or the airport management when Braking Action Advisories are in effect.

REFERENCE-
FAAO 7110.65, Altimeter Setting Issuance Below Lowest Usable FL, Para 2-7-2.
FAAO 7110.65, Low Level Wind Shear Advisories, Para 3-1-8.
FAAO 7110.65, Braking Action Advisories, Para 3-3-5.
P/CG Term- Braking Action Advisories.

3-9-2. DEPARTURE DELAY INFORMATION

USA/USAF/USN NOT APPLICABLE

When gate-hold procedures are in effect, issue the following departure delay information as appropriate:

REFERENCE-
FAAO 7210.3, Gate Hold Procedures, Para 10-4-3.

a. Advise departing aircraft the time at which the pilot can expect to receive engine startup advisory.

PHRASEOLOGY-
GATE HOLD PROCEDURES ARE IN EFFECT. ALL AIRCRAFT CONTACT (position) ON (frequency) FOR ENGINE START TIME. EXPECT ENGINE START/TAXI (time).

b. Advise departing aircraft when to start engines and/or to advise when ready to taxi.

PHRASEOLOGY-
START ENGINES, ADVISE WHEN READY TO TAXI,

or

ADVISE WHEN READY TO TAXI.

c. If the pilot requests to hold in a delay absorbing area, the request shall be approved if space and traffic conditions permit.

d. Advise all aircraft on GC/FD frequency upon termination of gate hold procedures.

PHRASEOLOGY-
GATE HOLD PROCEDURES NO LONGER IN EFFECT.

3-9-3. DEPARTURE CONTROL INSTRUCTIONS

Inform departing IFR, SVFR, VFR aircraft receiving radar service, and TRSA VFR aircraft of the following:

a. Before takeoff.

1. Issue the appropriate departure control frequency and beacon code. The departure control frequency may be omitted if a DP has been or will be assigned and the departure control frequency is published on the DP.

PHRASEOLOGY-
DEPARTURE FREQUENCY WILL BE (frequency), SQUAWK (code).

2. Inform all departing IFR military turboprop/turbojet aircraft (except transport and cargo types) to change to departure control frequency. If the local controller has departure frequency override, transmit urgent instructions on this frequency. If the override capability does not exist, transmit urgent instructions on the emergency frequency.

PHRASEOLOGY-
CHANGE TO DEPARTURE.

3. *USAF.* USAF control towers are authorized to inform all departing IFR military transport/cargo type aircraft operating in formation flight to change to departure control frequency before takeoff.

b. After takeoff.

1. When the aircraft is about $^1/_2$ mile beyond the runway end, instruct civil aircraft, and military transport, and cargo types to contact departure control, provided further communication with you is not required.

2. Do not request departing military turboprop/turbojet aircraft (except transport and cargo types) to make radio frequency or radar beacon changes before the aircraft reaches 2,500 feet above the surface.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

3-9-4. TAXI INTO POSITION AND HOLD (TIPH)

a. The intent of TIPH is to position aircraft for an imminent departure. Authorize an aircraft to taxi into position and hold, except as restricted in subpara f, when takeoff clearance cannot be issued because of traffic. Issue traffic information to any aircraft so authorized. Traffic information may be omitted when the traffic is another aircraft which has landed on or is taking off the same runway and is clearly visible to the holding aircraft. Do not use conditional phrases such as "behind landing traffic" or "after the departing aircraft."

b. *USN NOT APPLICABLE.* First state the runway number followed by the taxi into position clearance when more than one runway is active.

PHRASEOLOGY-
RUNWAY (number), TAXI INTO POSITION AND HOLD.

Or, when only one runway is active:

TAXI INTO POSITION AND HOLD.

c. When an aircraft is authorized to taxi into takeoff position to hold, inform it of the closest traffic that is cleared to land, touch-and-go, stop-and-go, or unrestricted low approach on the same runway.

EXAMPLE-
"United Five, runway one eight, taxi into position and hold. Traffic a Boeing Seven Thirty Seven, six mile final."

Or, when only one runway is active:

"United Five, taxi into position and hold. Traffic a Boeing Seven Thirty Seven, six mile final."

d. *USAF.* When an aircraft is authorized to taxi into takeoff position to hold, inform it of the closest traffic within 6 miles on final approach to the same runway. If the approaching aircraft is on a different frequency, inform it of the aircraft taxing into position.

e. Do not authorize an aircraft to taxi into position and hold when the departure point is not visible from the tower, unless the aircraft's position can be verified by ASDE or the runway is used for departures only.

f. Do not authorize an aircraft to taxi into position and hold at an intersection between sunset and sunrise or at anytime when the intersection is not visible from the tower.

g. *USN.* Do not authorize aircraft to taxi into takeoff position to hold simultaneously on intersecting runways.

PHRASEOLOGY-
CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-
FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

h. When a local controller delivers or amends an ATC clearance to an aircraft awaiting departure and that aircraft is holding short of a runway or is holding in position on a runway, an additional clearance shall be issued to prevent the possibility of the aircraft inadvertently taxiing onto the runway and/or beginning takeoff

roll. In such cases, append one of the following ATC instructions as appropriate:

1. HOLD SHORT OF RUNWAY, *or*

2. HOLD IN POSITION.

i. *USAF/USN.* When issuing additional instructions or information to an aircraft holding in takeoff position, include instructions to continue holding or taxi off the runway, unless it is cleared for takeoff.

PHRASEOLOGY-
CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-
FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

3-9-5. ANTICIPATING SEPARATION

Takeoff clearance needs not be withheld until prescribed separation exists if there is a reasonable assurance it will exist when the aircraft starts takeoff roll.

3-9-6. SAME RUNWAY SEPARATION

Separate a departing aircraft from a preceding departing or arriving aircraft using the same runway by ensuring that it does not begin takeoff roll until:

a. The other aircraft has departed and crossed the runway end or turned to avert any conflict. If you can determine distances by reference to suitable landmarks, the other aircraft needs only be airborne if the following minimum distance exists between aircraft:
(See FIG 3-9-1 and FIG 3-9-2.)

1. When only Category I aircraft are involved- *3,000 feet.*

2. When a Category I aircraft is preceded by a Category II aircraft- *3,000 feet.*

3. When either the succeeding or both are Category II aircraft- *4,500 feet.*

4. When either is a Category III aircraft- *6,000 feet.*

5. When the succeeding aircraft is a helicopter, visual separation may be applied in lieu of using distance minima.

Same Runway Separation
[View 1]

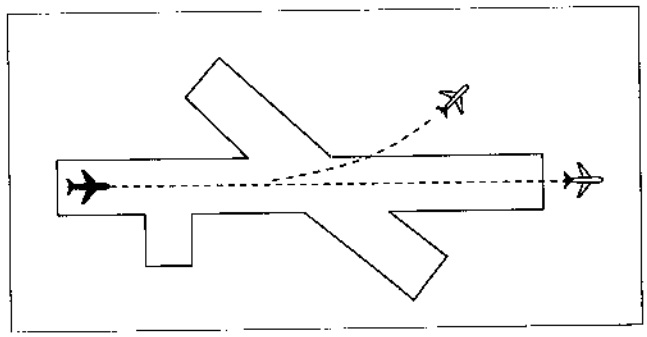

FIG 3-9-1

Same Runway Separation
[View 2]

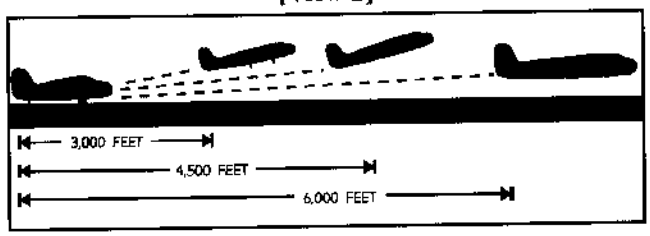

FIG 3-9-2

NOTE-
Aircraft same runway separation (SRS) categories are specified in Appendices A, B, and C and based upon the following definitions:

CATEGORY I- small aircraft weighing 12,500 lbs. or less, with a single propeller driven engine, and all helicopters.

CATEGORY II- small aircraft weighing 12,500 lbs. or less, with propeller driven twin-engines.

CATEGORY III- all other aircraft.

b. A preceding landing aircraft is clear of the runway.
(See FIG 3-9-3.)

Preceding Landing Aircraft Clear of Runway

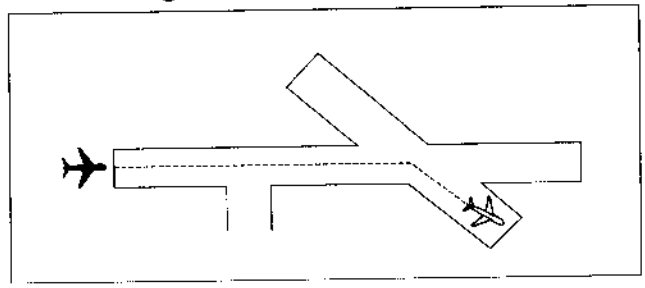

FIG 3-9-3

REFERENCE-
P/CG Term- Clear of the Runway.

WAKE TURBULENCE APPLICATION

c. Do not issue clearances which imply or indicate approval of rolling takeoffs by heavy jet aircraft except as provided in para 3-1-14, Ground Operations When Volcanic Ash is Present.

d. Do not issue clearances to a small aircraft to taxi into position and hold on the same runway behind a departing heavy jet aircraft to apply the necessary intervals.

REFERENCE-
AC 90-23, Aircraft Wake Turbulence.

e. The minima in para 5-5-4, Minima, may be applied in lieu of the 2 minute requirement in subpara f. When para 5-5-4, Minima, are applied, ensure that the appropriate radar separation exists at or prior to the time an aircraft becomes airborne when taking off behind a heavy jet/B757.

NOTE-
The pilot may request additional separation; i.e., 2 minutes vs. 4 miles, but should make this request before taxiing on the runway.

f. Separate IFR/VFR aircraft taking off behind a heavy jet/B757 departure by 2 minutes, when departing:

NOTE-
Takeoff clearance to the following aircraft should not be issued until 2 minutes after the heavy jet/B757 begins takeoff roll.

1. The same runway. (See FIG 3-9-4.)

2 Minute Separation

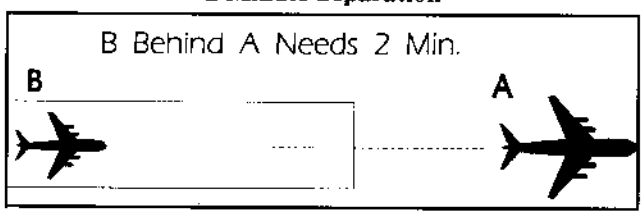

FIG 3-9-4

2. A parallel runway separated by less than 2,500 feet.

g. Separate an aircraft from a heavy jet/B757 when operating on a runway with a displaced landing threshold if projected flight paths will cross- *2 minutes when:*

1. A departure follows a heavy jet/B757 arrival.

2. An arrival follows a heavy jet/B757 departure.

h. Air traffic controllers shall not approve pilot requests to deviate from the required wake turbulence time interval if the preceding aircraft is a heavy jet/B757.

i. Separate a small aircraft behind a large aircraft taking off or making a low/missed approach when utilizing opposite direction takeoffs on the same runway by *3 minutes* unless a pilot has initiated a request to deviate from the 3-minute interval. In the latter case, issue a wake turbulence advisory before clearing the aircraft for takeoff.

NOTE-
1. *A request for takeoff does not initiate a waiver request.*
2. *To initiate a waiver of the 3 minute rule, the request for takeoff must be accompanied by a request to deviate from the 3-minute rule.*

REFERENCE-
FAAO 7110.65, Aircraft Information: Appendix A, Appendix B, and Appendix C.

j. Separate aircraft behind a heavy jet/B757 departing or making a low/missed approach when utilizing opposite direction takeoffs or landings on the same or parallel runways separated by less than 2,500 feet- *3 minutes.*

k. Inform an aircraft when it is necessary to hold in order to provide the required *3-minute* interval.

PHRASEOLOGY-
HOLD FOR WAKE TURBULENCE.

REFERENCE-
FAAO 7110.65, Wake Turbulence Separation for Intersection Departures, Para 3-9-7.

3-9-7. WAKE TURBULENCE SEPARATION FOR INTERSECTION DEPARTURES

a. Apply the following wake turbulence criteria for intersection departures:

1. Separate a small aircraft taking off from an intersection on the same runway (same or opposite direction takeoff) or a parallel runway separated by less than 2,500 feet with runway thresholds offset by 500 feet or more behind a preceding departing large aircraft by ensuring that the small aircraft does not start takeoff roll until at least 3 minutes after the large aircraft has taken off.

2. Separate any aircraft taking off from an intersection on the same runway (same or opposite direction takeoff), parallel runways separated by less than 2,500 feet, and parallel runways separated by less than 2,500 feet with runway thresholds offset by 500 feet or more, by ensuring that the aircraft does not start

takeoff roll until at least 3 minutes after a heavy aircraft/B757 has taken off.

NOTE-
Parallel runways separated by less than 2,500 feet with runway thresholds offset by less than 500 feet shall apply para 3-9-6, Same Runway Separation, subpara f.

3. Separate a small aircraft weighing 12,500 lbs. or less taking off from an intersection on the same runway (same or opposite direction takeoff) behind a preceding small aircraft weighing more than 12,500 lbs. by ensuring the following small aircraft does not start takeoff roll until at least 3 minutes after the preceding aircraft has taken off.

4. Inform an aircraft when it is necessary to hold in order to provide the required 3-minute interval.

PHRASEOLOGY-
HOLD FOR WAKE TURBULENCE.

NOTE-
Aircraft conducting touch-and-go and stop-and-go operations are considered to be departing from an intersection.

REFERENCE-
FAAO 7110.65, Touch-and-Go or Stop-and-Go or Low Approach, Para 3-8-2.

b. The 3-minute interval is not required when:

1. A pilot has initiated a request to deviate from that interval unless the preceding departing aircraft is a heavy aircraft/B757.

NOTE-
A request for takeoff does not initiate a waiver request; the request for takeoff must be accomplished by a request to deviate from the 3-minute interval.

2. USA NOT APPLICABLE. The intersection is 500 feet or less from the departure point of the preceding aircraft and both aircraft are taking off in the same direction.

3. Successive touch-and-go and stop-and-go operations are conducted with a small aircraft following another small aircraft weighing more than 12,500 lbs. or a large aircraft in the pattern, or a small aircraft weighing more than 12,500 lbs. or a large aircraft departing the same runway, provided the pilot of the small aircraft is maintaining visual separation/spacing behind the preceding large aircraft. Issue a wake turbulence cautionary advisory and the position of the large aircraft.

EXAMPLE-
"Caution wake turbulence, DC-9 on base leg."

4. Successive touch-and-go and stop-and-go operations are conducted with any aircraft following a heavy aircraft/B757 in the pattern, or heavy aircraft/B757 departing the same runway, provided the pilot of the aircraft is maintaining visual separation/spacing behind the preceding heavy aircraft/B757. Issue a wake turbulence cautionary advisory and the position of the heavy aircraft/B757.

EXAMPLE-
"Caution wake turbulence, heavy Lockheed C5A departing runway two three."

5. If action is initiated to reduce the separation between successive touch-and-go or stop-and-go operations, apply 3 minutes separation.

c. When applying the provision of subpara b:

1. Issue a wake turbulence advisory before clearing the aircraft for takeoff.

2. Do not clear the intersection departure for an immediate takeoff.

3. Issue a clearance to permit the trailing aircraft to deviate from course enough to avoid the flight path of the preceding large departure when applying supara b1 or b2.

4. Separation requirements in accordance with para 3-9-6, Same Runway Separation, must also apply.

REFERENCE-
FAAO 7110.65, Same Runway Separation, Para 3-9-6.

3-9-8. INTERSECTING RUNWAY SEPARATION

Separate departing aircraft from an aircraft using an intersecting runway, or nonintersecting runways when the flight paths intersect, by ensuring that the departure does not begin takeoff roll until one of the following exists:

a. The preceding aircraft has departed and passed the intersection, has crossed the departure runway, or is turning to avert any conflict.
(See FIG 3-9-5 and FIG 3-9-6.)

Intersecting Runway Separation

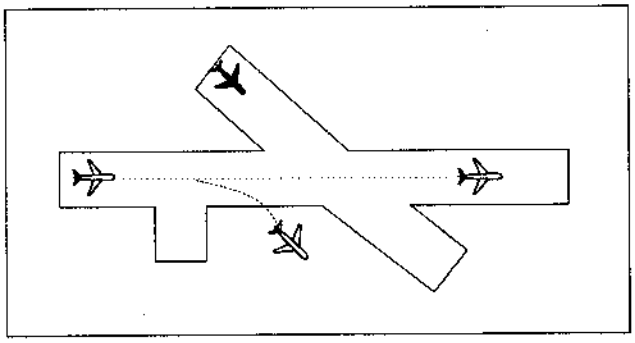

FIG 3-9-5

Intersecting Runway Separation

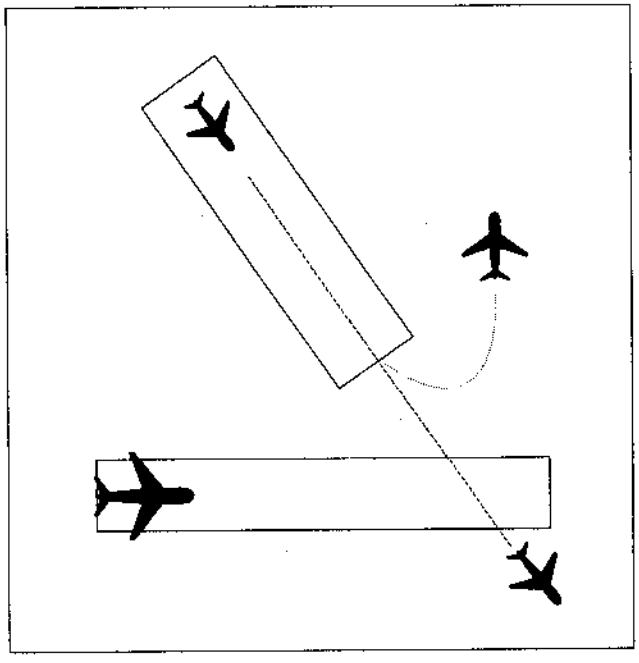

FIG 3-9-6

b. A preceding arriving aircraft is clear of the landing runway, completed the landing roll and will hold short of the intersection, passed the intersection, or has crossed over the departure runway.
(See FIG 3-9-7 and FIG 3-9-8.)

REFERENCE-
P/CG Term- Clear of the Runway.

Intersecting Runway Separation

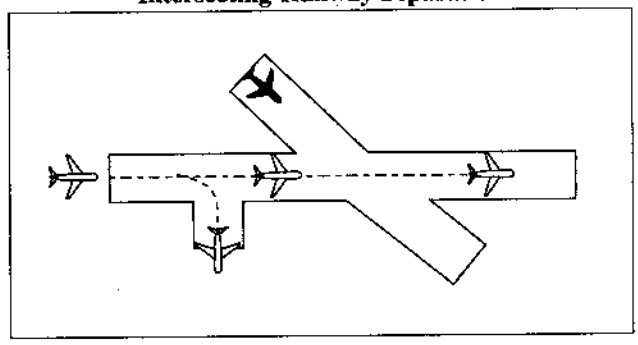

FIG 3-9-7

Intersecting Runway Separation

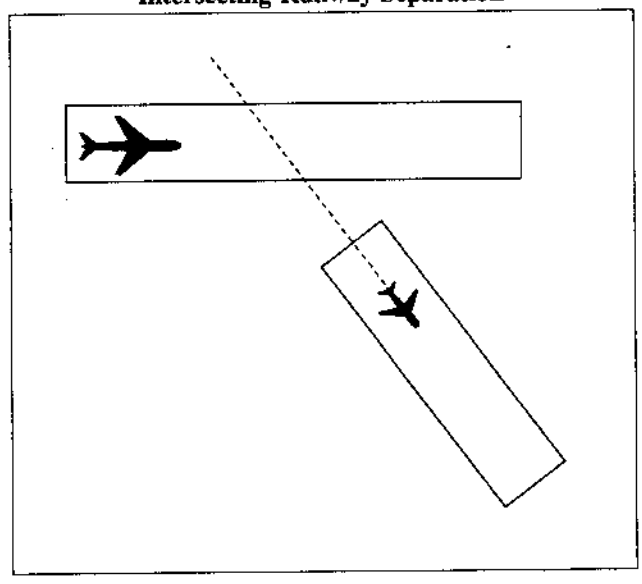

FIG 3-9-8

WAKE TURBULENCE APPLICATION

c. Separate IFR/VFR aircraft taking off behind a heavy jet/B757 departure by *2 minutes* when departing:

NOTE-
Takeoff clearance to the following aircraft should not be issued until 2 minutes after the heavy jet/B757 begins takeoff roll.

1. Crossing runways if projected flight paths will cross. (See FIG 3-9-9.)

2. A parallel runway separated by 2,500 feet or more if projected flight paths will cross.
(See FIG 3-9-10.)

Crossing Runways

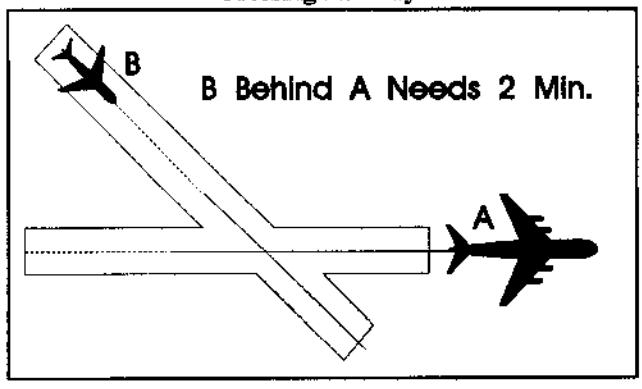

FIG 3-9-9

Parallel Runway

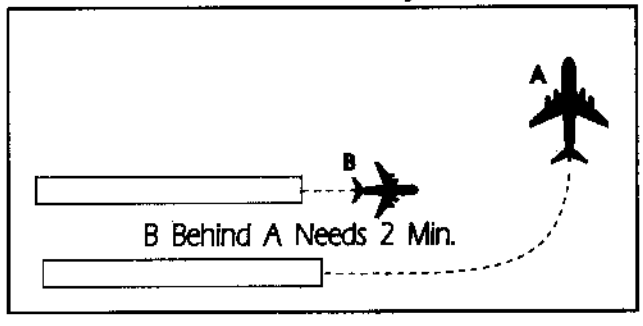

FIG 3-9-10

d. Separate IFR/VFR aircraft departing behind a landing heavy jet/B757 on a crossing runway if the departure will fly through the airborne path of the arrival- *2 minutes.* (See FIG 3-9-11.)

Departure on Crossing Runway

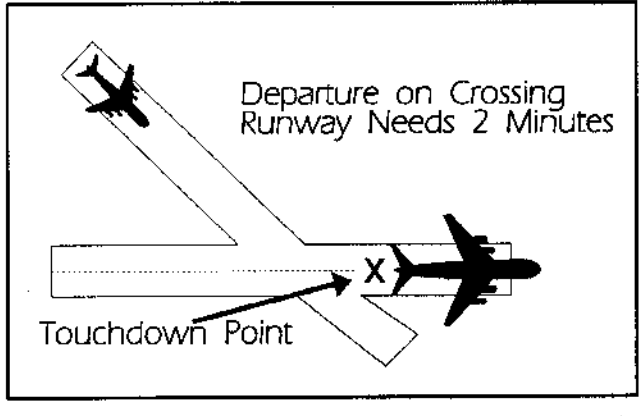

FIG 3-9-11

e. Air traffic controllers shall not approve pilot requests to deviate from the required wake turbulence time interval if the preceding aircraft is a heavy jet/B757.

REFERENCE-
FAAO 7110.65, Successive or Simultaneous Departures, Para 5-8-3.
FAAO 7110.65, Departures and Arrivals on Parallel or Nonintersecting Diverging Runways, Para 5-8-5.

3-9-9. TAKEOFF CLEARANCE

a. When only one runway is active, issue takeoff clearance.

PHRASEOLOGY-
CLEARED FOR TAKEOFF.

NOTE-
Turbine-powered aircraft may be considered ready for takeoff when they reach the runway unless they advise otherwise.

REFERENCE-
FAAO 7110.65, Departure Terminology, Para 4-3-1.

b. When more than one runway is active, first state the runway number followed by the takeoff clearance.

PHRASEOLOGY-
RUNWAY (number), CLEARED FOR TAKEOFF.

EXAMPLE-
"RUNWAY TWO SEVEN, CLEARED FOR TAKEOFF."

c. *USA/USN/USAF.* Issue surface wind and takeoff clearance to aircraft.

PHRASEOLOGY-
WIND (surface wind in direction and velocity).
CLEARED FOR TAKEOFF.

d. *USAF.* When an aircraft is cleared for takeoff, inform it of the closest traffic within 6 miles on final approach to the same runway. If the approaching aircraft is on a different frequency, inform it of the departing aircraft.

3-9-10. CANCELLATION OF TAKEOFF CLEARANCE

Cancel a previously issued clearance for takeoff and inform the pilot of the reason if circumstances require. Once an aircraft has started takeoff roll, cancel the takeoff clearance only for the purpose of safety.

NOTE-
In no case should a takeoff clearance be canceled after an aircraft has started its takeoff roll solely for the purpose of meeting traffic management requirements/EDCT.

PHRASEOLOGY-
CANCEL TAKEOFF CLEARANCE (reason).